

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Allen K. Lam, Richard K. Williams, Alexander K. Choi
Assignee: Advanced Analogic Technologies, Inc.
Title: Symmetrical Package For Semiconductor Die
Serial No.: N/A Filing Date: Herewith
Examiner: Not Yet Assigned Group Art Unit: Not Yet Assigned
Docket No.: M-7577-2D US

San Jose, California
January 30, 2002

BOX PATENT APPLICATION
COMMISSIONER FOR PATENTS
Washington, D. C. 20231

PRELIMINARY AMENDMENT

Dear Sir:

Please amend the above identified application as follows before calculating the fees.

IN THE SPECIFICATION

At page 1, line 6, insert:

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a divisional of Application 09/898,212, filed July 2, 2001 which is a continuation of Application No. 09/322,124, filed May 27, 1999, and is related to Application No. 09/322,127, each of which is incorporated herein by reference in its entirety.

IN THE CLAIMS

Please cancel Claims 1-3 and add the following new claims.

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4. (New) A semiconductor package comprising:

a semiconductor die having first and second principal surfaces;

a lead attached to the first principal surface of the die;

a heat sink attached to the second principal surface of the die;

and

a nonconductive capsule encasing the die and at least a portion of the lead and the heat sink, opposite ends of the lead protruding from the capsule,

wherein said heat sink includes a rim enclosed by said capsule.

5. (New) The semiconductor package of Claim 4 wherein a notch is located on an underside of said rim.

6. (New) The semiconductor package of Claim 4 wherein a plurality of holes are formed in said rim.

7. (New) The semiconductor package of Claim 5 wherein said heat sink comprises a second notch, said second notch being enclosed by said capsule.

8. (New) A semiconductor package comprising:

a semiconductor die having first and second principal surfaces;

a lead attached to the first principal surface of the die;

a heat sink, at least a portion of a first surface of the heat sink being attached to the second principal surface of the die;

and

a nonconductive capsule encasing the die and at least a portion of the lead and the heat sink, opposite ends of the lead protruding from the capsule,

wherein a plurality of holes are formed at the first surface of said heat sink.

9. (New) The semiconductor package of Claim 8 wherein the plurality of holes are located in a portion of the first surface of said heat sink that is not adjacent to said die.

10. (New) The semiconductor package of Claim 8 wherein the plurality of holes are located both in a first portion of the first surface of said heat sink that is not adjacent to said die and a second portion of the first surface of said heat sink that is adjacent to said die.

11. (New) The semiconductor package of Claim 10 wherein said heat sink includes a rim enclosed by said capsule.

12. (New) The semiconductor package of Claim 11 wherein a notch is located on an underside of said rim.

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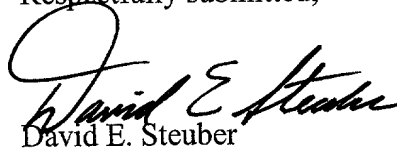
REMARKS

Claims 4-12 are pending in the application. Claims 4-12 correspond to Claims 11-19, respectively, in parent application 09/898,212.

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Respectfully submitted,



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09/22/2009 10:00 AM

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